In the Specification

Please replace the paragraph beginning on page 9, line 24 with the following amended paragraph:

The labeled polymers are analyzed using a polymer analysis system. These systems include interrogation and detection stations that serve to stimulate a signal from a polymer (or a probe bound thereto) and to detect the resultant signal, respectively. Preferably, the polymer analysis system is capable of analyzing single polymers. Even more preferably, they analyze the polymer linearly and are therefore referred to as linear single polymer analysis systems. Such systems are discussed in greater detail below. An exemplary polymer analysis system is the ~~GeneEngine~~ GENE ENGINE™, a platform for genomic sequencing, described in U.S. Patent No. 6,355,420 B1, issued March 12, 2002, the entire contents of which are incorporated by reference herein.

Please replace the paragraph beginning on page 26, line 9 with the following amended paragraph:

Examples of labels include fluorophores such as fluorescein (e.g., fluorescein succinimidyl ester), TRITC, rhodamine, tetramethylrhodamine, R-phycoerythrin, cyanine derivatives [[Cy-3]] CY-3®, [[Cy-5]] CY-5®, [[Cy-7]] CY-7®, ~~Texas Red~~ TEXAS RED® (a sulfonyl chloride derivate of sulforhodamine 101), Phar-Red, allophycocyanin (APC); radioactive isotopes such as P^{32} or H^3; epitope or affinity molecules such as FLAG® and HA (influenza hemagluttin) epitope; and enzymes such as alkaline phosphatase, horseradish peroxidase and β-galactosidase. Also envisioned is the use of semiconductor nanocrystals such as quantum dots, described in U.S. Pat. No. 6,207,392, as labels. Quantum dots are commercially available from Quantum Dot Corporation. The labels may be directly linked to the DNA bases or may be secondary or tertiary units linked to modified DNA bases.

Please replace the paragraph beginning on page 27, line 8 with the following amended paragraph:

In some instances, it may be desirable to further label the polymer with a standard marker. The standard marker may be used to identify the polymer including defining, but not distinguishing between, its ends. For example, the standard marker may be a backbone label. One subset of backbone labels for nucleic acids are nucleic acid stains that bind nucleic acids in a sequence independent manner. Examples include intercalating dyes such as phenanthridines and acridines (e.g., ethidium bromide, propidium iodide, hexidium iodide, dihydroethidium, ethidium homodimer-1 and –2, ethidium monoazide, and 9-amino-6-chloro-2-methoxyacridine: ACMA); minor grove binders such as indoles and imidazoles (e.g., Hoechst 33258, Hoechst 33342, Hoechst 34580 and DAPI); and miscellaneous nucleic acid stains such as acridine orange (also capable of intercalating), 7-AAD, actinomycin D, LDS751, and hydroxystilbamidine. All of the aforementioned nucleic acid stains are commercially available from suppliers such as Molecular Probes, Inc. Still other examples of nucleic acid stains include the following dyes from Molecular Probes: cyanine dyes such as SYTOX® Blue, SYTOX® Green, SYTOX® Orange, POPO-1, POPO-3, YOYO-1, YOYO-3, TOTO-1, TOTO-3, JOJO-1, LOLO-1, BOBO-1, BOBO-3, PO-PRO-1, PO-PRO-3, BO-PRO-1, BO-PRO-3, TO-PRO-1, TO-PRO-3, TO-PRO-5, JO-PRO-1, LO-PRO-1, YO-PRO-1, YO-PRO-3, ~~PicoGreen~~ PICOGREEN®, ~~OliGreen~~ OLIGOGREEN®, ~~RiboGreen~~ RIBOGREEN®, SYBR® Gold, SYBR® Green I, SYBR® Green II, SYBR® DX, SYTO®-40, -41, -42, -43, -44, -45 (blue), SYTO®-13, -16, -24, -21, -23, -12, -11, -20, -22, -15, -14, -25 (green), SYTO®-81, -80, -82, -83, -84, -85 (orange), SYTO®-64, -17, -59, -61, -62, -60, -63 (red).

Please replace the paragraph beginning on page 28, line 1 with the following amended paragraph:

Length-proportional DNA labeling also can be performed using the ~~Label IT~~ LABEL IT® kit which is commercially available from Mirus (Madison, WI). The kit covalently attaches

different fluorophores to DNA. The fluorophores are rhodamine, fluorescein, ~~Cy3™~~ CY-3® and ~~Cy5™~~ CY-5®.

Please replace the paragraph beginning on page 28, line 26 with the following amended paragraph:

An example of a suitable polymer analysis system is the ~~Gene Engine~~ GENE ENGINE™ system described in PCT patent applications WO98/35012 and WO00/09757, published on August 13, 1998, and February 24, 2000, respectively, and in issued U.S. Patent 6,355,420 B1, issued March 12, 2002. The contents of these applications and patent, as well as those of other applications and patents, and references cited herein are incorporated by reference in their entirety. This system allows single nucleic acid molecules to be passed through an interaction station in a linear manner, whereby the nucleotides in the nucleic acid polymer and/or the nucleic acid probe are interrogated individually in order to determine whether there is a detectable label conjugated thereto. Interrogation involves exposing the nucleic acid to an energy source such as optical radiation of a set wavelength. In response to the energy source exposure, the detectable label on the nucleotide (if one is present) emits a detectable signal. The mechanism for signal emission and detection will depend on the type of label sought to be detected.